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King Abdullah Petroleum Studies and Research Center

Commentary

Why Does Sustainable Finance Not Flow into the Global South?

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Summary

While private sustainable finance flows have grown substantially in recent years, they are heavily concentrated in certain countries – primarily in a few advanced economies. Emerging markets and developing economies (EMDEs) face significant barriers to accessing much-needed private funds for their decarbonization efforts. Our analysis shows that these barriers are largely structural, including underdevelopment of financial systems, high investment and climate-related risks, and insufficient climate policy initiatives. Moreover, the complex and stringent requirements of the Environmental, Social, and Governance (ESG) framework and sustainability reporting further complicate efforts by EMDEs to attract global capital. Addressing these challenges will require a combination of long-term reforms and immediate financial interventions. Strengthening financial systems, developing inclusive green taxonomies, and fostering North-South collaboration are critical steps to unlocking sustainable finance for the Global South. In the short term, concessional finance and innovative blended finance mechanisms are crucial for de-risking investments and for mobilizing private capital for decarbonization in developing countries.

1. Introduction

Sustainable finance has become increasingly important in addressing the global challenge of climate change, with investment flows growing significantly over the last decade. After the COVID-19 pandemic, a heightened focus on sustainability has been driven by green recovery efforts. According to the Bloomberg New Energy Finance (BNEF)'s Transition Investment (TI) data (that primarily covers mitigation-focused decarbonization projects)[1] and Sustainable Debt Issuance (SDI), the primary funding sources for clean energy projects[2] have grown substantially, with annual volumes reaching nearly US$2 trillion in the years after 2020. Despite this surge, the current global investment level and the mobilized sustainable finance remain significantly below the requirements of the 2050 goal of net-zero emissions, which are estimated to be between US$5 trillion and US$7 trillion annually (Yilmaz et al. 2023). Even more concerning is the stark concentration of these funds in a small number of developed countries, deepening the divide between the Global North and the Global South.

The unprecedented levels of investment required for a successful net-zero transition far exceed public resources, particularly in developing countries, which underscores the critical role of private finance. However, our analysis of private sustainable finance flows over the past decade reveals a stark disparity: while private capital has been instrumental in advancing decarbonization projects in developed countries, it has largely bypassed the Global South. For example, SDI is heavily dominated by advanced economies, with the United States and Europe leading the way. Despite their significant growing economic size and their contribution to global emissions, emerging economies such as China and India (among many other developing countries) have captured a much smaller share of private sustainable finance. This trend raises serious concerns over the ability of EMDEs to access the financial resources necessary for transitioning to low-carbon economies, especially given the trillions of dollars required annually.

Our analysis shows that the uneven distribution of sustainable finance is largely driven by structural challenges in the Global South. These include underdeveloped financial systems, high investment and climate-related risks, and insufficient climate policy initiatives (that may provide capital incentives and attract international investors for decarbonization efforts). Furthermore, the complex and stringent standards of the sustainable finance ecosystem, such as ESG criteria and policy initiatives aiming to achieve net-zero targets, create additional barriers for many developing countries that are seeking to attract international investors. Without addressing these structural barriers, the Global South risks being left behind in transitioning to a low-carbon future.

To close this gap, policymakers must prioritize creating enabling conditions for sustainable finance in developing economies. Capacity-building efforts to strengthen financial markets, improve investment climates, and develop more inclusive green taxonomies will be essential. Furthermore, international collaboration, including North-South partnerships, should aim to increase the flow of concessional finance, such as through a more effective implementation of the US$100 billion pledge and the emerging agenda on New Collective Quantified Goal (NCQG) under the UNFCCC,[3] and it should seek to develop innovative blended finance mechanisms (usually through the support of multilateral development banks) to de-risk private investments. With these strategic interventions, the Global South can accelerate its role in the global transition, paving the way for a more equitable and sustainable future.

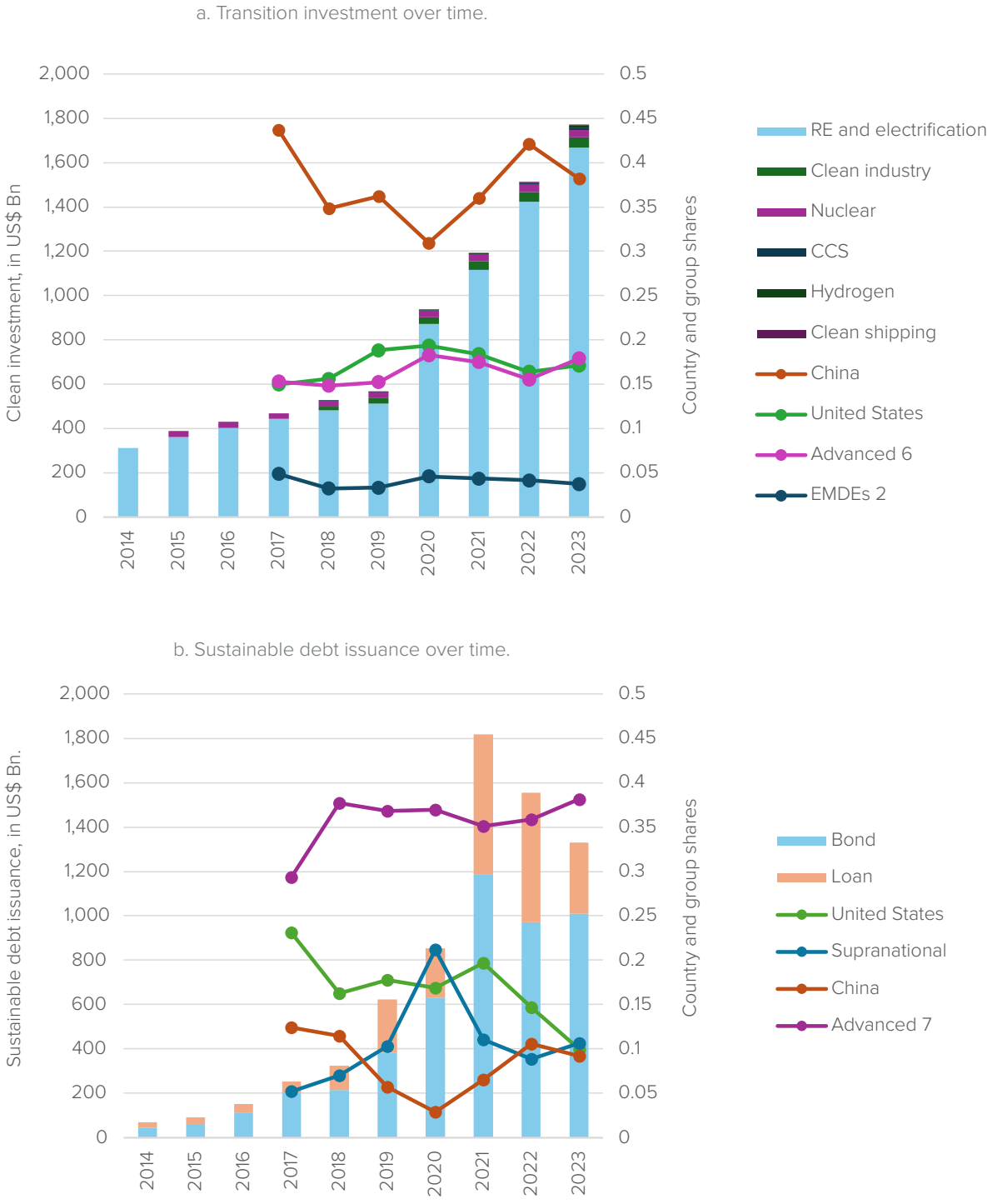
2. Transition Investment and Sustainable Finance Status

Over the past decade, sustainability has gained significant attention from investors (Figure 1). Two key milestones have shaped trends in TI and SDI over the last decade: the Paris Agreement in 2015 and the COVID-19 pandemic in 2020. After 2016, both TI and SDI steadily increased, reflecting a growing focus on climate action. The trends post-COVID-19 spiked sharply due to green recovery efforts from the dual crises of the pandemic and the climate. The size of TI and SDI increased by a rate of three times after 2022, nearing US$2 trillion annually in the years following 2020, compared to around $500 billion in 2019. Despite the consistent upward trend in TI, SDI has gradually declined since 2021, presumably driven by high-interest rate environments in major economies aimed at curbing inflation following pandemic-related stimulus.[4] TI's continued increase during this period can be attributed mainly to the natural lag between finance and physical investment as well as the continuous support of the public sector backing.

Transition investments are concentrated in only a handful of economies, where most EMDEs indicate significant investment deficits to reach the net-zero goals by 2050 (Figure 1a). One clear pattern that continues to be present in these trends is the concentration of decarbonization investments and finance. For instance, the top-10 investing countries account for about 75% of global investment. On average, China alone undertakes 37% of global transition investments (which is an exception among the EMDEs), the United States records about 17%, and another 16% comes from six advanced economies, namely, Germany, the United Kingdom, France, Japan, Canada, and Spain. Finally, the remaining two countries in the top-10 investing group, India and Brazil, account for 4% of the total investment. This descriptive evidence indicates a significant deficit across countries, especially between the Global North and the Global South, that can deliver net-zero urgencies by 2050. All developing countries outside of China need an urgent boost of clean investment multiple times in order to close the investment gaps (Yilmaz et al. 2023).

The concentration of sustainable finance flows, which are the critical funding source for decarbonization projects,

Figure 1. Transition investment and sustainable debt issuance trends.



Source: Author's construction from BloombergNEF.

Note: "RE and electrification" covers renewable energy, electrified transport, power grids, electrified heat, and energy storage. "Advanced 6" covers six developed countries with the highest shares of transition investment after China and the United States, which are (in the correct order) Germany, the United Kingdom, France, Japan, Canada, and Spain. "EMDEs 2" covers India and Brazil. The bond and loan cover all sustainable finance debt issuances: sustainability-linked, green, social, and transition bonds, and loans. Similarly, "Advanced 7" covers France, Germany, Italy, the United Kingdom, South Korea, Spain, and Japan.

is even more pronounced (Figure 1b). According to the BloombergNEF data in Figure 1b, SDI is heavily dominated by a small group of developed countries. Historically, the United States has led the market, accounting for 15% of total flows, with an additional 35% shared among seven other advanced economies: France, Germany, Italy, the United Kingdom, South Korea, Spain, and Japan. Collectively, these eight countries account for over half of the post-COVID-19 SDI flows.

In contrast, developing nations have seen significantly lower shares of private sustainable finance. China, for instance, captures only 7% of post-COVID-19 SDI, which is substantially smaller than its role in TI. This trend is mirrored across many EMDBs, which have largely been excluded from private sustainable finance flows and have had to rely on public funding and multilateral institutions to support their decarbonization efforts. However, private finance is crucial for advancing transition efforts in the Global South, particularly given their constrained public finance resources and their pressing development urgencies. The stark disparity underscores the pressing need to unlock private finance for the Global South. Thus, a deeper analysis of the underlying factors driving this phenomenon is necessary to address this imbalance and to inform effective policy interventions.

The following sections explore key barriers that are limiting private sustainable finance flows to the Global South. To do so, we establish simple data facts on access to sustainable finance across country groups and the key explanatory factors.

3. Bottlenecks for Scaling Up Private Sustainable Finance

Limited access to private capital is not a new challenge for the Global South, which has been extensively studied in a rich body of academic literature over the decades (World Bank 1997). Several direct and indirect factors influence the risk-adjusted returns of investments and ultimately shape investor decisions, determining the direction of capital flows. These factors include a wide range of risk factors – social, economic, financial, and political – as well as return-related elements, such as tax incentives and subsidies, along with the existence and efficiency of the necessary financial market structures and instruments.

As climate change becomes an urgent global concern, financing mechanisms have recently shifted towards sustainability. In this evolving landscape, investors seek more detailed information and more substantial commitments regarding the use of funds to ensure long-term sustainability impacts at acceptable risk-adjusted returns. Accordingly, policymakers must now address these heightened demands to scale up funding for decarbonization efforts (Schoenmaker and Volz 2022).

While several factors may affect the flow of sustainable finance into the Global South, we discuss the commonly highlighted ones in the literature: financial development, investment and climate risks, and climate change-focused incentive mechanisms. The discussion focuses on how these factors may affect capital decisions. We focus on supply-side (lender) behavior[5] in the analysis, as private finance is lacking in transition investments. Second, we measure access to sustainable finance by employing countries' annual SDI relative to their GDP size (referred to as the SDI ratio). While SDI is not the only private source of sustainable finance, it captures the vast majority of the climate-related financial flows (IEA 2024).

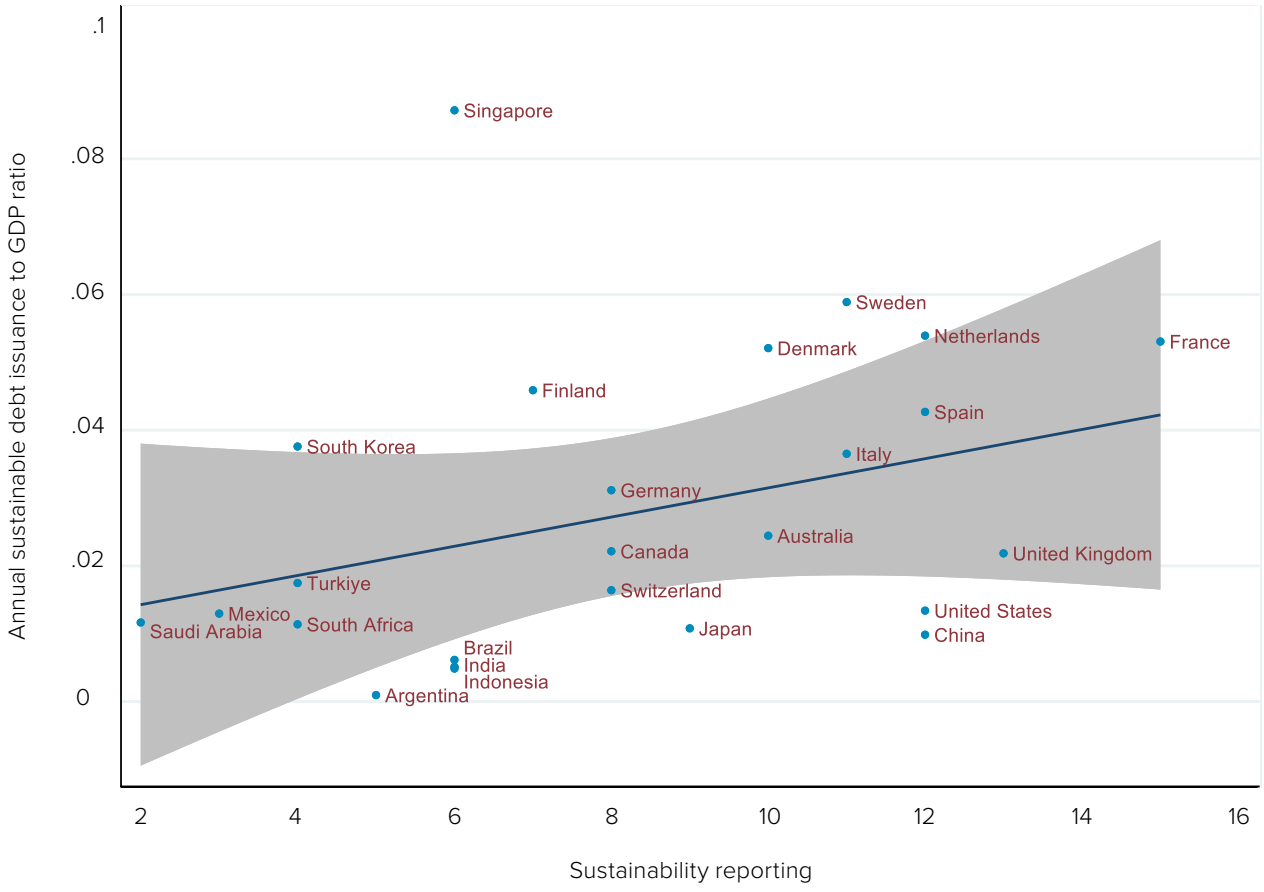
3.1 Lack of Financial Development

Sustainable finance imposes complex and stringent requirements to meet the informational needs of market participants (Figure 2). These include establishing robust standards for measuring, verifying, and regularly reporting sustainability-related data. For instance, the ESG ecosystem is vast and highly complex, and its numerous components include disclosure standards, sustainability frameworks, taxonomies, data providers, aggregators, and processors such as rating providers (Marczis, Mihálovits, and Sebestyén 2023). Successful implementation of these requirements depends heavily on a country's financial development. That is to say, the countries with more developed and well-functioning financial systems have a comparative advantage in adopting these

emerging norms, and they are better positioned to attract sustainable funding for their decarbonization projects.

This relationship is illustrated in Figure 2, which shows the correlation between SDI as a share of GDP and the sustainability reporting policies introduced by governments. The policy data is collected from the United Nations Principles for Responsible Investment (UN PRI),[6] which includes various aspects of sustainability reporting, such as taxonomies, investor and corporate disclosure requirements, transition plans, due diligence, and accountability mechanisms. As noted above, countries' access to sustainable finance is measured by their annual SDI relative to GDP. The figure indicates that countries with more comprehensive sustainability reporting policies tend to have a higher SDI, which demonstrates the importance of regulatory frameworks in driving sustainable finance.

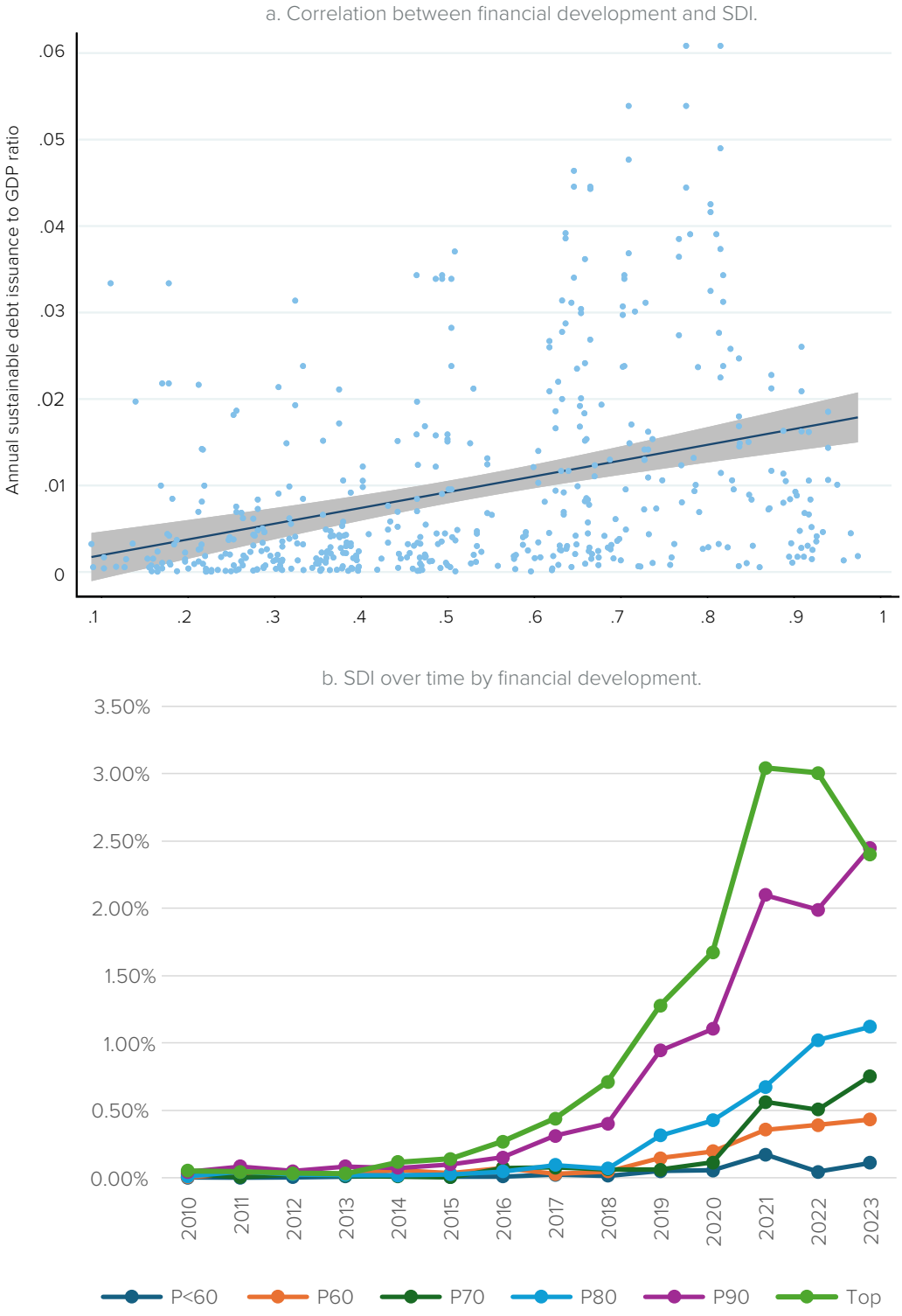
Figure 2. Sustainable finance reporting and sustainable debt issuance.



Source: Authors' construction from UN PRI.

Note: Sustainability reporting on the x-axis covers policy sub-categories of the UN PR, such as taxonomy, investor sustainable disclosure requirements (including transition plans), investor duties, investor due diligence requirements, investment products, labeling, corporate sustainability disclosure requirements, corporate sustainability responsibilities, and corporate due diligence requirements. Sustainability reporting indicates the sum of policy sub-categories in each country.

Figure 3. Financial development and sustainable debt issuance.



Source: Authors' computation from BNEF, IMF, and the World Bank.
Note: Panel (a) covers non-zero SDI issuance since 2015, given the expansion of SDI in the following years. Panel (b) covers all the countries and years. Percentiles are established based on average financial development between 2017 and 2019, where each percentile contains 15 countries. A higher score implies higher financial development.

Similarly, the argument that financially advanced countries tend to attract greater sustainable finance flows is well-established, as shown in Figure 3. The figure measures financial development using the IMF's Financial Development Index,[7] which considers financial institutions and market access, depth, and efficiency (Svirydzenka 2016). While the Index does not specifically capture elements unique to sustainable finance – such as sustainability reporting, institutional capacity, or legal sustainability infrastructure – it reflects the general financial development necessary to adopt sustainable finance practices. Figure 3a highlights a significant and robust positive correlation between SDI and financial development, indicating that countries with more advanced financial systems attract substantially more sustainable finance.[8]

The data also reveals a growing gap in sustainable finance access between countries with high and low levels of financial development. Figure 3(b) tracks the access to sustainable finance over time for countries at different levels of financial development (i.e., average development levels between 2017 and 2019). The figure shows that countries in the top financial development percentiles (such as P90 and above) have significantly increased their SDI ratio compared to those in lower percentiles. For instance, countries in the top 2 percentiles raised their sustainable finance access to 2.5%-3% of their GDP by 2023, whereas those in the 60th percentile and below barely reached 0.5% in the same year. Although all of the groups have seen some improvement, the disparity between the top and the rest has widened over time. This growing divergence underscores how the more financially developed countries are pulling further ahead in attracting sustainable finance.

Figure 3 also reflects the fact that the degree of financial development poses significant challenges for the Global South despite the urgent need for financing to meet net-zero targets. These demands heighten barriers to attracting private capital, especially in countries with underdeveloped financial systems. Without targeted interventions, the Global South risks falling further behind in securing the necessary funding for decarbonization.

3.2 Prevailing High Investment and Climate-Related Risks

Traditionally, several risks, including macroeconomic (e.g., GDP growth), financial (e.g., exchange rate stability), and political risks (e.g., government stability), may affect the value of and the return from an investment, and they are thus relevant for private investment decisions. Climate change poses additional physical risks (e.g., Goldsmith-Pinkham et al. 2023) and transitional risks (e.g., Faccini, Matin, and Skiadopoulo 2023) on top of the conventional ones (e.g., economic, financial, and political). Physical risks usually refer to extreme climate events, such as increasing temperatures, floods, and hurricanes, while transition risks may arise as a result of climate action affecting the nature of economic activity for firms, households, and governments (e.g., regulation, technology, legal developments, and reputation). These additional climate-related risks complicate investment decision-making, as they introduce new dimensions of uncertainty that require investors to consider long-term environmental impacts alongside traditional risk factors.

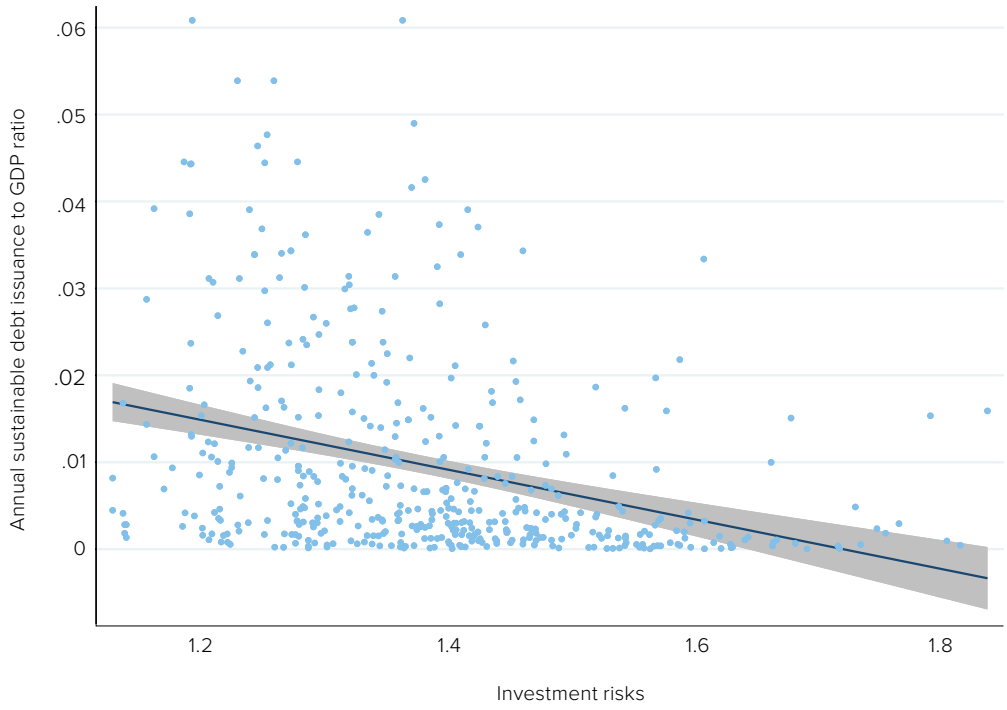
Countries with high investment risks have limited access to sustainable finance (Figure 4). In the figure, we employ a composite risk index that accounts for economic, financial, and political risks – namely, the International Country Risk Guide (ICRG) from PRS Group (PRS Group 2014).[9] Each component covers various relevant risk factors that are critical for investment decisions. For instance, the economic component covers risks for GDP growth and inflation, the financial risk component includes risks for exchange rate stability and liquidity, and the political risks component accounts for government stability and the rule of law. In sum, we refer to these investment risks as the necessary conditions for countries

to increase their access to private capital. The data support the existence of a negative relationship between a country's risk profile and its annual SDI ratio (Figure 4a). This is to say, the countries with high investment-risk profiles issue significantly less sustainable debt (as a share of their GDP) than countries with low-risk profiles.[10]

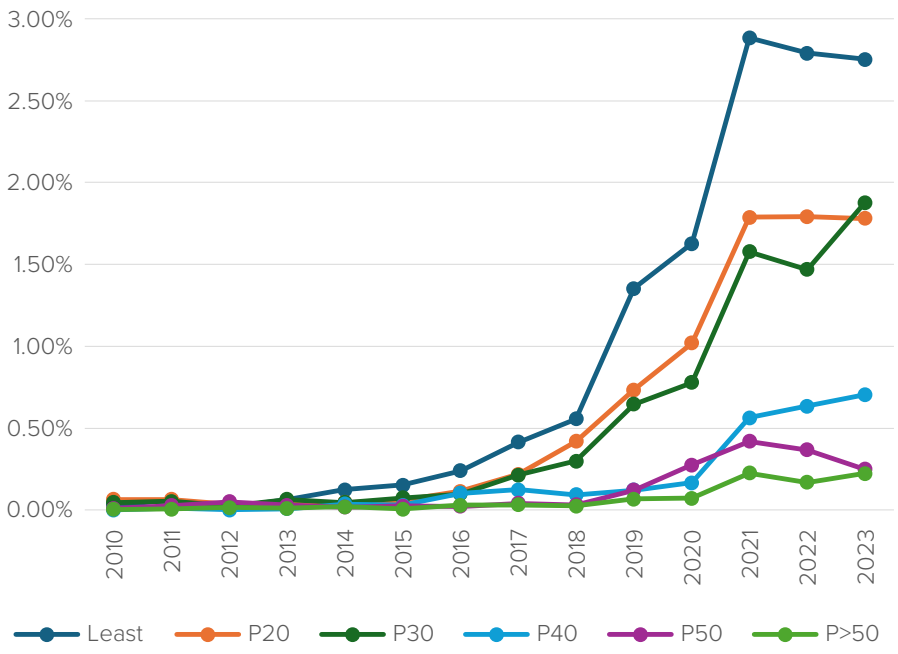
More importantly, the data shows that financiers are increasingly concerned about investment risks. More specifically, we examined how the correlation between countries' investment risk profiles and annual SDI changes over time. The results reveal that financiers seem to pay more attention to investment risks over time. Second, we split countries into percentile groups based on their composite risk scores between 2017 and 2019, which was the period right before the expansion of the sustainable debt market. We then tracked their SDIs as a share of their GDPs over time, as shown in Figure 4b, where it can be seen that countries with the least risk profile (the lowest percentile) experienced the highest SDI in recent years, with their SDI-to-GDP ratio reaching as high as 3%. On the contrary, risky countries at P40 and above (relatively riskier) raised significantly less SDI, with the highest only around half percent of GDP. There is a clear diverging pattern, then, between high- and low-risk groups, and the difference has widened substantially over time.

Figure 4. Relationship between investment risks and SDI penetration.

a. Correlation between investment risks and SDI.



b. SDI over time by investment risks.

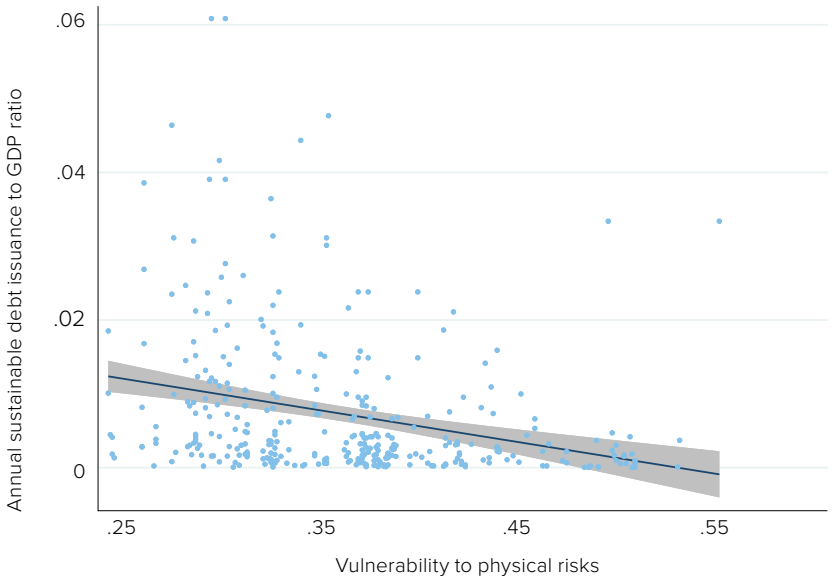


Source: Authors' computation from BNEF, IMF, and the World Bank.
Note: Panel (a) covers non-zero SDI issuance since 2015, given the expansion of SDI in the following years. Panel (b) covers all the countries and years. Percentiles are established based on investment risks between 2017 and 2019, where each percentile contains 13 countries. The original scores are inverted to refer to them as a higher score, implying higher risk.

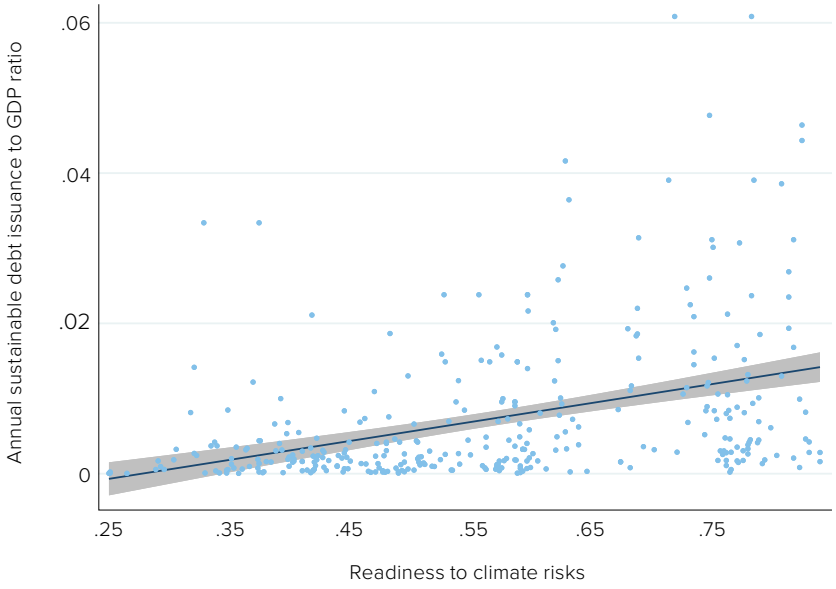
Financiers have a low appetite to lend to vulnerable countries (with high physical risks) and a higher preference for countries that are taking more decisive action to mitigate climate risks (Figure 5). To explore the sentiment of financiers toward climate risks, we employ the IMF-Adapted ND-GAIN Index,[11] which captures country-level physical risks (e.g., ecosystem, food, water, etc.) and countries' readiness (e.g., economic, governance, and social) to respond to these risks. While the readiness index does not directly capture countries' readiness for specific transition risks, such as policy changes by foreign countries, one may argue that countries with a stronger response capacity to physical risks would also have at least some ability to respond to more specific transition risks. Simple correlations between the SDI of countries and their vulnerability to physical risks, as well as the relation of SDIs with the readiness of countries to respond to climate risks, are displayed in Figures 4a and 4b. The figure indicates a strong negative relation between SDI and vulnerabilities to physical risks, and a positive relation with the readiness of countries to respond to climate risks.

Figure 5. Relationship between climate risks and SDI penetration.

a. Correlation between vulnerability to physical risks and SDI.



b. Correlation between readiness to climate risks and SDI.



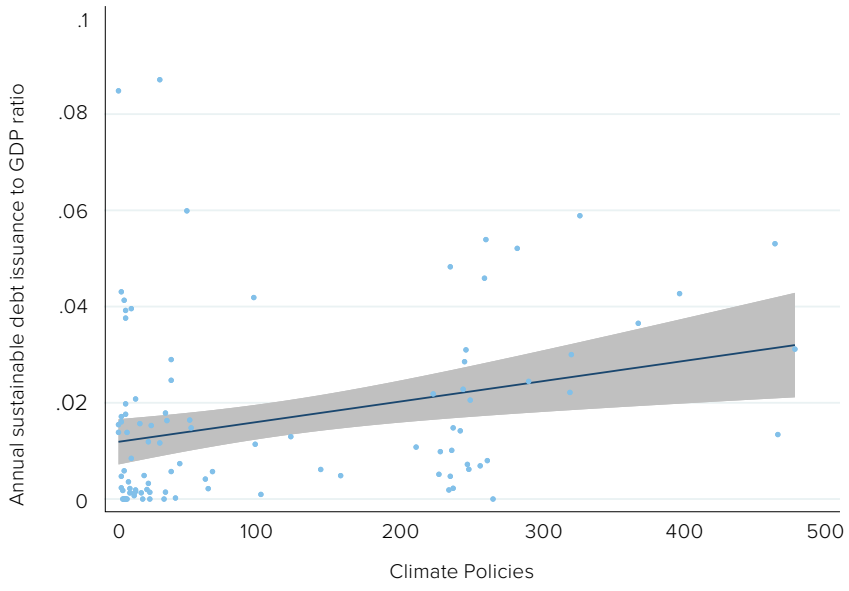
Source: Authors' computation from BNEF, IMF, and the World Bank.
Note: Panel (a) covers non-zero SDI issuance since 2015, given the expansion of SDI in the following years, where a higher score implies a higher vulnerability. Panel (b) covers non-zero SDI issuance since 2015, where a higher score implies better readiness.

3.3 Lack of a Robust Climate Policy Agenda

Climate policy initiatives and commitments are essential for attracting private capital and building trust among sustainability investors (e.g., Zhang, Li, and Liu 2021; Cuomo et al. 2024). Clear and predictable policy frameworks and monetary incentives can de-risk projects and enhance their profitability, thereby improving their attractiveness to private capital owners. They help set expectations and inform private actors about the government's long-term commitment to the climate agenda. This is critical for aligning private finance with governments' decarbonization strategies.

The data supports the strong positive relationship between the SDI ratio and implementing an ambitious climate policy agenda (Figure 6). The figure below illustrates the relationship between SDI and the number of climate policies that countries implement. We track climate policies from the Climate Policies Database,[12] which compiles climate policy measures from countries worldwide. While the number of policies does not guarantee their effectiveness, it is still informative about a country's climate policy ambition. The figure illustrates that countries with a larger role in the climate agenda, measured as the total number of climate policies (i.e., covering more than 100 policies), tend to have higher SDI issuance (Figure 6).[13]

Figure 6. Relationship between climate policy ambition and sustainable debt issuance.



Source: Authors' computation from BNEF, Climate Policy database, and the World Bank.
Note: Climate policies on the x-axis of both panels indicate the sum of climate policy initiatives in each country. The figure presents the relationship between sustainable debt to GDP ratio (data from BNEF and the World Bank) and the number of climate policy initiatives across the world (data from Climate Policy Database).

Countries' climate policy ambitions are closely tied to their economic priorities, shaped by existing economic structures and the availability of public fiscal resources. Many developing nations face urgent socio-economic challenges that require substantial infrastructure investment, education, healthcare, and industrial development. Unlike advanced economies, these nations rely more heavily on hard-to-abate sectors, such as steel, cement, and petrochemicals (Yilmaz, Roychoudhury, and Hatipoglu 2022). Decarbonizing these sectors is capital-intensive, requiring significant upfront investments, particularly in technologies such as carbon capture, utilization, and storage (CCUS). These solutions are not only technologically demanding but also financially challenging. While mainstream decarbonization strategies, such as electrification and renewable energy, typically attract private investment, CCUS projects often depend on public funding due to limited private sector interest, which is a product of the fact that they require large-scale investments and incorporate substantial levels of uncertainty and risks in terms of returns (Yilmaz 2024).

Given the fiscal constraints and the higher reliance on hard-to-abate sectors, the slow pace of climate policy action in developing countries is unsurprising. These nations must tread carefully in decarbonization, as missteps could distort domestic economic stability, impacting labor markets, fiscal health, and macroeconomic conditions. Paradoxically, this cautious pace of transition may further hinder the ability of these nations to attract external private finance for their climate initiatives.

4. Conclusions and Policy Recommendations

Our descriptive analysis, consistent with the academic literature, reveals that underdeveloped financial markets, insufficient institutional capacity, and elevated investment risks – challenges predominantly faced by countries in the Global South – significantly hinder the flow of private sustainable finance. Additionally, these countries are increasingly exposed to substantial climate-related risks, both physical and transitional, thereby further discouraging private investment. The complex and stringent requirements of the sustainable finance ecosystem, particularly those related to ESG reporting practices, create additional challenges, making it difficult for many developing nations to align with international investor expectations. More concerningly, these disparities between the Global North and the Global South continue to widen over time.

Addressing the barriers to sustainable finance in the Global South requires a combination of long-term structural reforms and immediate financial interventions. Policymakers must focus on creating enabling conditions for sustainable finance in these regions. Capacity building is a key priority, aimed at strengthening financial systems and increasing access to private capital. Governments and regulators can develop and strengthen regulatory and policy frameworks. Participation in global platforms, such as the Network for Greening the Financial System and the Sustainable Banking and Finance Network, can allow participants to learn from the best practices. Training both public and private sector participants can also help to design, implement, and enforce sustainability-related policies, regulations, and practices. Facilitating private sector engagement and improving data and transparency would additionally contribute to capacity building.

Developing inclusive and flexible green taxonomies that accommodate a broad range of clean technologies, especially for hard-to-abate sectors, is critical. Green taxonomies can improve investor due diligence, reduce uncertainties in the market, and allow for better evaluation and comparison of sustainable investments. Classification of which activities can be considered as green enhances investor confidence. Policymakers can provide clarity and consistency for investors, reducing the risks of greenwashing. Additionally, fostering trust through North-South collaboration and partnerships can enhance policy ambition in the Global South, helping to attract greater flows of sustainable finance.

Concessional and blended finance practices will be essential in bridging the investment gap in the short term, where they can make risky and financially unattractive

sustainable projects viable. They can lower the cost of capital, reduce the risks of emerging clean technologies, and encourage more capital flows for sustainable investments. Strengthening global initiatives, such as the Green Climate Fund and the New Collective Quantified Goal on climate finance, ensures that low-income developing countries receive the financial support they need for their decarbonization efforts. Moreover, innovative finance mechanisms, combining public and private resources, can help mitigate the risks associated with investing in high-risk regions and sectors, making them more attractive to private capital.

Endnotes

[1] Transition investment data is obtained from BNEF's Energy Transition Investment database, which covers investments in renewable energy, electrified transport, power grids, electrified heat, energy storage, clean industry and shipping, nuclear, carbon capture and storage, and clean hydrogen projects worldwide (https://bnef.com).

[2] Sustainable debt issuance data is also obtained from BNEF's Sustainable Finance database. It includes all debt issuances in the form of green bonds and loans, social bonds, sustainability bonds, sustainability-linked bonds and loans, and transition bonds and loans (https://bnef.com).

[3] The United Nations Framework Convention on Climate Change (UNFCCC) progress report for the US$100 billion pledge is available at (https://unfccc.int/process-and-meetings/bodies/constituted-bodies/standing-committee-on-finance-scf/progress-report).

[4] Higher interest rates increase borrowing costs and limit the maturity of debt instruments, which can adversely affect the financing of transition projects. This has been a great concern for policymakers, especially in the post-COVID era in developing countries, where borrowing costs are already high due to various factors (IMF 2023; World Bank 2023; Flowers and Martin 2024; Wood Mackenzie 2023).

[5] The underlying assumption of the analysis is that all countries (regardless of their development levels) demand private capital proportional to their GDP size, and private financiers allocate their portfolios based on their observations of the countries.

[6] Source link: https://www.unpri.org/policy/global-policy/regulation-database.

[7] The data can be accessed at: https://data.imf.org/?sk=f8032e80-b36c-43b1-ac26-493c5b1cd33b.

[8] The simple correlation coefficient is 41%, which is statistically significant at the 1% confidence level. We also examined the correlation between the variables in a given year in the sample period. The results indicate that the correlation constantly increases over time and reaches 70% in more recent years.

9 The data can be accessed through: https://www.prsgroup.com/explore-our-products/icrg.

[10] The correlation coefficient is 0.28, which is statistically significant at the 1% level.

[11] The index was originally developed by the University of Notre Dame with the name Notre Dame Global Adaptation Index (ND-GAIN) and later improved and updated by the IMF. See the IMF's Climate Change Dashboard for details: https://climatedata.imf.org/pages/access-data.

[12] The data can be accessed through: https://climatepolicydatabase.org/policies.

[13] The data can be accessed through: https://shorturl.at/8maA6.

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About the Project

Parallel to ongoing net-zero transitions, the global financial architecture is evolving, with a greater emphasis on sustainability impact. The volume of sustainability funding, including debt and equity instruments, has exponentially increased in recent years, reaching multi-trillion U.S. dollars. However, these levels still fall short of the financing needs for successful net-zero transitions aligned with Paris Agreement priorities. More critically, the current allocation of funds is misaligned with transition priorities, being highly concentrated in specific countries (e.g., developed nations) and technologies (e.g., renewable energy and electrification). This project aims to elucidate the underlying reasons by examining the key factors driving sustainability flows across countries and clean technologies.

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